

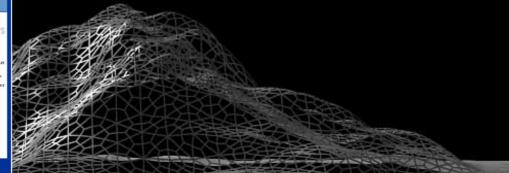


Use of web-based Environmental Data Management System (EDMS) for compliance with AEC data requirements at Camp Navajo, AZ

AIMMS

Army Environmental Cleanup Workshop San Antonio, TX, February 2006











EDMS Case Study – Camp Navajo

- Located west of Flagstaff and east of Williams, Arizona comprising 28,347 acres
- Camp Navajo was originally established as Navajo Ordnance Depot in 1942.
- Camp Navajo is operated by the Arizona National Guard
- The installation has two missions. These are: To operate a National Guard training site and to provide depot-level storage services to various DoD and civilian customers.
- Two Environmental Cleanups Compliance Cleanup RCRA and DoDs IRP program.







Camp Navajo Environmental Cleanup

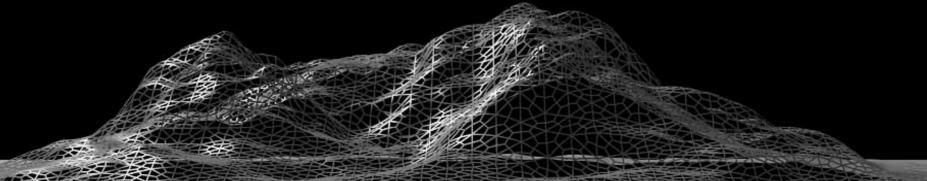
- Camp Navajo used for >50 years for demil and land disposal of obsolete/unserviceable ammunition
- Wide variety of hazardous substances, wastes, and munitions were stored, tested, and expended here
- Environmental studies began in 1979 and continue
- Contaminants being investigated include heavy metals, solvents, VOCs, pesticides, white phosphorus, and UXO
- Camp Navajo did not make EPAs Superfund NPL, but is subject to state and federal laws





Camp Navajo IRP Program

- 60 IRP Sites identified since 1989 (7 in the OB/OD Area)
- ADEQ Site Closure on 53 Sites
- Developing Program Decision Document for 53 sites
- Program is 80% Complete, will be 100% in December 2006 (PBC 7 Sites)





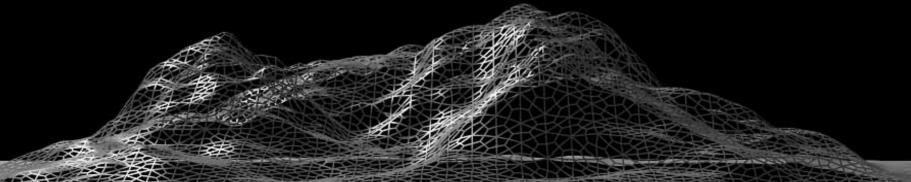






Camp Navajo Compliance Cleanup (RCRA OB/OD).

- Seven Interim Status Operation Sites
- ADEQ Site Closure on 4 of the Interim Status Operation Sites
- Developing Decision Document for 2 of the 4 sites closed
- Program is >50% Complete, will be 100% in December 2008, does not include LTM









Camp Navajo Project Challenges

- Create web-based system to facilitate the sharing of project data among contractors and provide tools for in-depth data analysis
- Establish data format standards for project data
- Accommodate a broad list of stakeholders
- Develop Unexploded Ordnance (UXO) data standards which did not previously exist in Environmental Restoration Information System (ERIS) data format
- Provide controlled access to information
- Compile existing data and convert existing contractor data to EDMS format standards

Deliverable consisted of three websites: contractor, public, and community involvement

Additional user training and matthemance of the system provided







Reasons for using EDMS at Camp Navajo

- Large site with many contractors
- Contractors would finish up work but not provide data deliverable to Camp Navajo
- No centralized repository for data and documents
- No standardized data formats across program
- Need to comply with USAEC ERIS standards and CERCLA Administrative Record guidance
- Community Relations to show progress on environmental cleanup programs

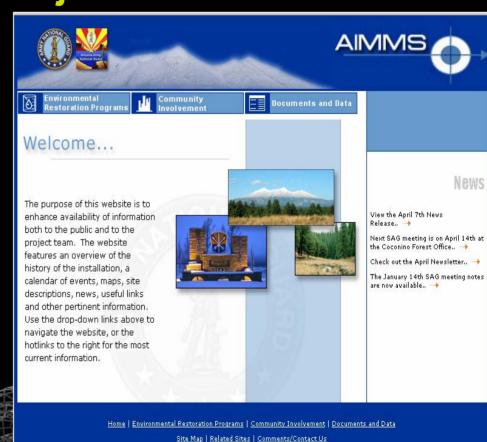






Benefits of EDMS Implementation at Camp Navajo

- Improved workflow: Data analysis, document dissemination, contractor interaction
- Compliance with regulatory requirements
- Program costs reduced
- Vehicle for community relations









Functionality of EDMS

- Interactive Mapping: "clickable" GIS map layers to evaluate sustainability of ranges (e.g. noise contours, line of sight, UXO).
- Data Query: query or view data, download reports, charting.
- Data Exchange: upload, share, download spatial data layers and tabular data.
- Document Management: upload, share, query, download project documents.
- Data Quality: system provides checks of data packets upon upload.

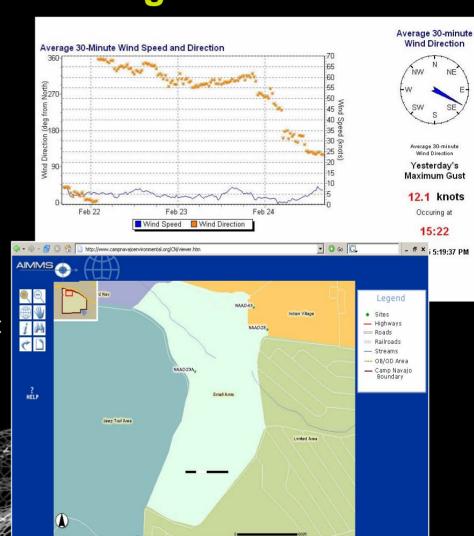






EDMS as a tool for Site Management

- Compliance View Map for spatial data. Document repository for UXO and safety guidance. Calendar for scheduling reclamation/removal activities.
- Stewardship View Map for endangered species, land management, census data, noise contours, and more. General information about best management practices.
- Outreach Community involvement and outreach website.
- Guidance Document repository for guidance, regulatory, and policies.

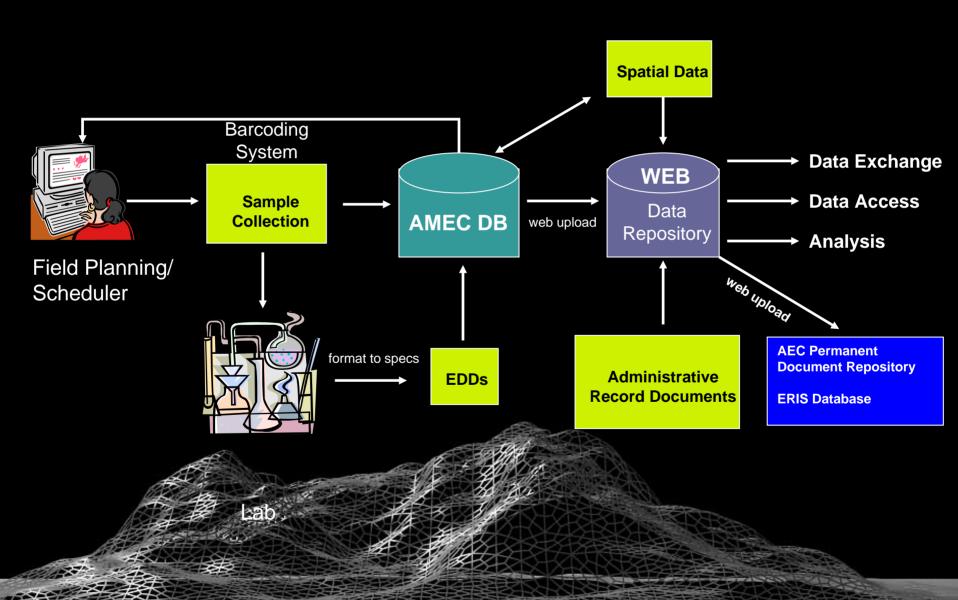


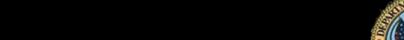






EDMS Workflow





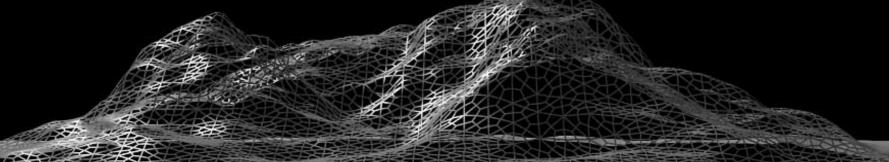






Benefits of a Web-based Solution

- Accommodate diverse data needs: general information for public to raw data for Contractors – chemical, geologic, spatial, UXO, documents
- Defined levels of security: open access to general information to secured access for data exchange 24X7
- Empower Stakeholders: work directly with the data
- Centralize information: ease of use, consistency among users, data archive
- Scalable: system built on modules for adding or removing functionality
- Minimal O&M: centralized system requires minimal O&M
- Retain value of the data: dataset fully referenced, standardized









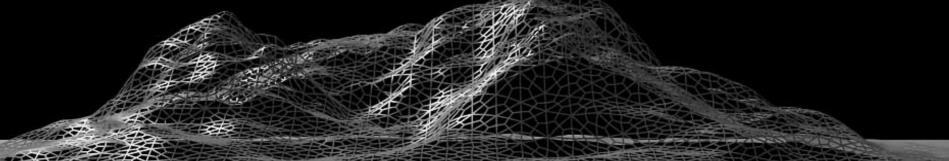
Client Benefits

- Data Ownership: data is readily available to client and not "controlled" by the consultant(s)
- Data Analysis Tools: analyze site data on EDMS
- Compliance: adherence to required formats
- Project portal: central project website to find information or link to other relevant resources
- Community Relations: disseminates site information to the public
- Savings: brings clients overall savings to program
- Data Backup: EDMS data backed up to tage nightly



Camp Navajo EDMS Project Highlights

- Compliance: AFCEE ERPIMS & USAEC ERIS database standards, FGDC GIS standards/metadata, CERCLA Administrative Record
- Centralized Data: Project data is on centralized web-based system and promotes ownership of data by site team.
- Flexibility: EDMS can manage various data types and fit project needs and requirements. Modules can be added and removed.
- Site URLs: www.campnavajo-edms.org
 www.campnavajoenvironmental.org









AEC Permanent Document Repository Reqs

- AEC Cleanup Strategic Plan I approved 5/27/03 states:
 - o Permanent Doc. Repository in place by FY05 for each environmental cleanup program regardless of funding source
 - o Applies to Active Sites, BRAC, Compliance-related Cleanup Programs, and MMRP (not FUDS which falls under USACE)
 - o Existing information generated in FY05 is required to be completed by FY08. Information generated in FY06 and beyond are to be processed according to guidance.
 - o Progress towards implementation of this guidance is part of management reviews. Army Cleanup Managers are responsible for executing this guidance.







Permanent Document Repository Scope

- Contains electronically stored copies of documents found in the environmental cleanup files.
- Installations must still maintain the official record copy in accordance with AR 25-400-2 and ARIMS.
- Enables installations to maintain project files that:
 - Withstand scrutiny of external audit
 - Contain information relied upon for making project decisions
 - Meet min. reqs. for Administrative Records required by CERCLA and National Contingency Plan (NCP)
 - Meet min. reqs. for environmental cleanup record keeping as required by AR 200-1
 - Are consistent with other project files
- Allows PMs to upload electronic copies of docs to Permanent Document Repository for storage and easy retrieval





Permanent Document Repository Tasks

- Maintain environmental cleanup project file that contains project documents found in Appendix C.
- Maintain document checklist to show the presence of a required document or explains why a document was not prepared
- Utilize standardize document type found in Appendix C
- Critical electronic communications are stored as hardcopy project files and in electronic repository. Must be filed in appropriate document category.

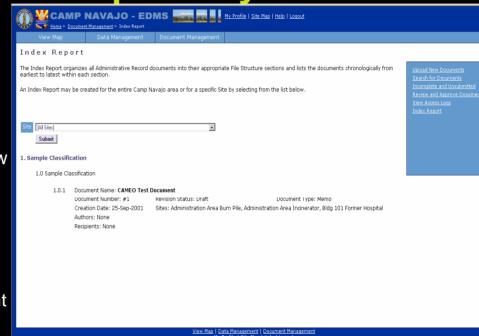






How does EDMS help comply with AEC Reqs for Permanent Document Repository?

- Establishes an SOP for document management that is compliant with CERCLA and AEC reqs
- Allows contractors to easily upload electronic documents to a web-based system with metadata
- Has QA functionality built in for ARC to review and approve document submittals
- Can assign documents to general document repository or the Administrative Record (AR)
- CERCLA Index Report can be generated online
- Public website available for viewing AR to comply with CERCLA community involvement requirements
- Easy export to AEC Permanent Document Repository











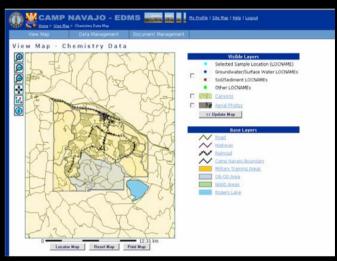
AEC ERIS Data Format

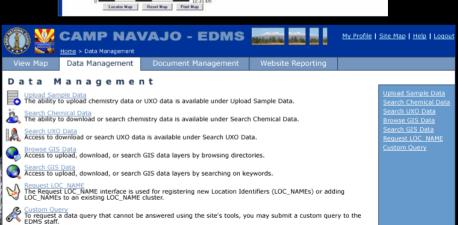
- Use of ERIS is required, in the Implementation Guidance for the Use of the Environmental Restoration Information System memo dated 12 NOV 03
- ERIS helps fulfill the Army's requirement under CERCLA/SARA to retain environmental data for 50 years
- The ERIS data is used for:
 - Fate and transport modeling
 - Data sorting and screening
 - Statistical analysis
 - Risk assessment
 - Reporting
- Site data can be uploaded in batch files or through ERIS web interface (upload within 120 days of last sample)



How does EDMS comply with AEC ERIS Requirement

- EDMS is built on the AEC ERIS data model
- Contractors load validated data to EDMS via XML upload file.
- EDMS runs QA checks on the uploaded data before import to database.
- EDMS allows for export of ERIS batch file formats for upload to ERIS website
- EDMS stores additional data outside of ERIS requirements (UXO and GIS data)







amed

- NGB is currently developing a similar EDMS for all States/Territories
- The NGB EDMS will support Cultural/Natural Resources, Restoration, and Compliance for NGB Environmental Division and the States/Territories
- NGB EDMS is in the process of completing the final development of cultural/natural resource module
- The Camp Navajo EDMS and the MMR EDMS will be used as models during the development of the NGB EDMS Restoration Module

Camp Navo WEBSITE DEMONSTRATION

amec[©]







My Profile | Site Map | Help | Logout

View Map

Data Management

Document Management

Welcome Demonstration User

The intent of the Camp Navajo EDMS is to offer the various stakeholders of the Camp Navajo IRP and OB/OD Area Closure Program practical access to the data through a web site. This web site offers a user-friendly interface to access a variety of tabular and GIS data from a variety of contractors. In addition, project reports, documents and records are available to view and download. The following list of services is available to you:

View Map

The View Map section of the site provides you with mapping tools to view the GIS data available on the site.

Data

The Data section of the site provides you with tools to upload, download and search through Chemical, UXO, and GIS data.

Document Management

The Document Management section of the site allows you to search through project reports, documents and records. Many of these records form the Administrative Record for the Camp Navajo IRP and OB/OD Area Closure Program.

My Profile

The My Profile section of the site provides you with the registered information for your account.

Recent Updates

There have been no updates to map layers in the past month.

In the past month, XXX LDI records, XXX sample records, and XXX UXO discovery records have been created or modified.

View Map | Data Management | Document Management | My Profile | Site Map | Help | Logout

• Camp Navajo-EDMS Home page describes the functions of the site for which the user has permissions access. User can click on either the hyperlink or the drop-down menus in the header.

 View Map page provides the user with the ability to visualize data on the Camp Navajo basemap. Default GIS layers are included and optional userselected layers can be activated. Standard GIS tools such as zoom, pan, and identify are provided along with Zoom to location (by LOC_NAME, coords, or site name). The UXO Vew Map interface is similar but provides a different data set.





CAMP NAVAJO - EDMS



Home > Data Management

View Map

Data Management

Document Management

Website Reporting

Management



Upload Sample Data

The ability to upload chemistry data or UXO data is available under Upload Sample Data.



<u>Search Chemical Data</u> The ability to download or search chemistry data is available under Search Chemical Data.



Search UXO Data

Access to download or search UXO data is available under Search UXO Data.



Browse GIS Data Access to upload, download, or search GIS data layers by browsing directories.



Access to upload, download, or search GIS data layers by searching on keywords.



The Request LOC_NAME interface is used for registering new Location Identifiers (LOC_NAMEs) or adding LOC NAMEs to an existing LOC NAME cluster.



To request a data query that cannot be answered using the site's tools, you may submit a custom query to the EDMS staff.

Upload Sample Data Search Chemical Data Search UXO Data Browse GIS Data Search GIS Data Request LOC NAME Custom Query

View Map | Data Management | Document Management | Website Reporting My Profile | Site Map | Help | Logout

 Camp Navajo-EDMS Data page describes the major subsections in the Data section. Please note that choices in this section reflect only the permissions grapted to that user. User can click on either the hyperlink or the drop-down menus in the header.



View Map

Data Management

Document Management

Agency Administration

Request LOC_NAME

In this section you can request a new named point (LOC_NAME) for use when sampling soil or drilling wells or boreholes. For additional information on LOC_NAMEs, please see the Camp Navajo EDMS Data Management Plan.

Site Serial Su	ffix Common Name	Contractor	Date	X Coordinate	Y Coordinate
R01 🕶 - #### -		Test Agency	17-Nov-2004		
WELL:AWIMW001	Sample location for initial test load	Test Agency	16-Nov-2004	422,641.58	3,893,204.26
WELL:AWIMW002	Sample location for initial test load	Test Agency	16-Nov-2004	422,641.54	3,893,198.72
WELL:AWIMW003	Sample location for initial test load	Test Agency	16-Nov-2004	422,734.35	3,893,297.75
WELL:AWIMW1901	Sample location for initial test load	Test Agency	16-Nov-2004	422,776.05	3,893,168.73
WELL:AWIMWD01	Sample location for initial test load	Test Agency	16-Nov-2004	422,641.58	3,893,204.26
WELL:AWIMWF01	Sample location for initial test load	Test Agency	16-Nov-2004	422,641.58	3,893,204.26
WELL:AWIMWM01	Sample location for initial test load	Test Agency	16-Nov-2004	422,641.58	3,893,204.26
ND002-0001	ND002-0001	Test Agency	16-Nov-2004	421,645.00	3,892,361.00
ND002-0002	ND002-0002	Test Agency	16-Nov-2004	422,042.00	3,891,607.00
ND002-0003	ND002-0003	Test Agency	16-Nov-2004	421,381.00	3,892,552.00
ND002-0004	ND002-0004	Test Agency	16-Nov-2004	421,417.00	3,892,537.00
ND003-0001	ND003-0001	Test Agency	16-Nov-2004	422,608.70	3,893,246.00
ND003-0002	ND003-0002	Test Agency	16-Nov-2004	422,544.90	3,893,172.60
ND003-0003	ND003-0003	Test Agency	16-Nov-2004	422,188.90	3,893,034.40
ND003-0004	ND003-0004	Test Agency	16-Nov-2004	422,207.60	3,893,001.00
ND003-0005	ND003-0005	Test Agency	16-Nov-2004	422,207.60	3,893,001.00
ND003-0006	ND003-0006	Test Agency	16-Nov-2004	422,207.60	3,893,001.00
ND003-0007	ND003-0007	Test Agency	16-Nov-2004	422,207.60	3,893,001.00
ND003-0008	ND003-0008	Test Agency	16-Nov-2004	422,207.60	3,893,001.00
ND003-0009	ND003-0009	Test Agency	16-Nov-2004	422,204.70	3,892,999.40
ND003-0010	ND003-0010	Test Agency	16-Nov-2004	422,199.90	3,892,974.10
ND003-0011	ND003-0011	Test Agency	16-Nov-2004	422,199.90	3,892,974.10
ND003-0012	ND003-0012	Test Agency	16-Nov-2004	422,199.90	3,892,974.10
ND003-0013	ND003-0013	Test Agency	16-Nov-2004	422,199.90	3,892,974.10
ND003-0014	ND003-0014	Test Agency	16-Nov-2004	422,201.90	3,892,970.50

Upload Sample Data Search Chemistry Data

Browse GIS Data

Request LOC NAME

Data Format Standard Latest DTD (v1)

<u>View Map | Data Management | Document Management | Agency Administration</u>
<u>My Profile | Site Map | Help | Logout</u>

Request LOC_NAME

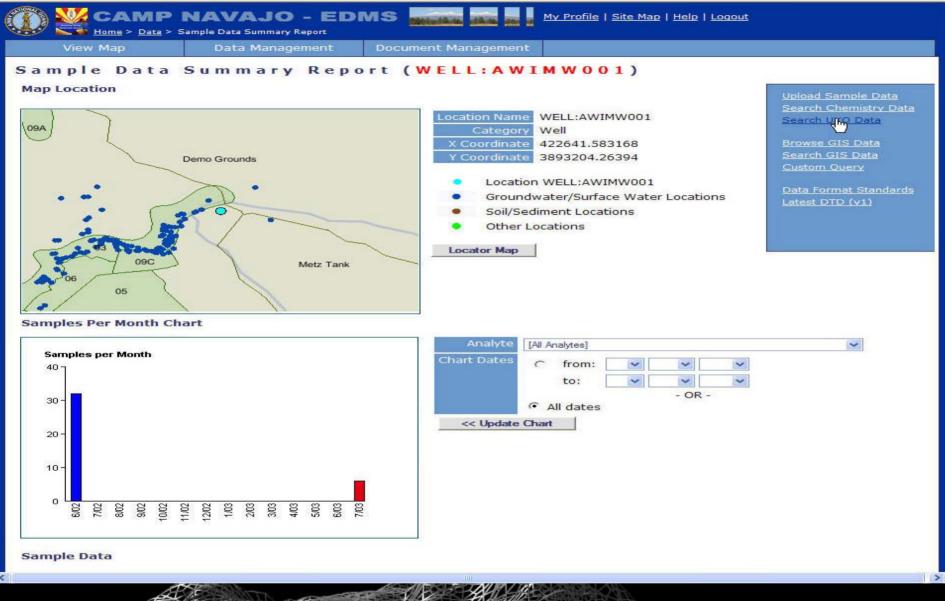
- Select Site
- ■Enter Optional Suffix and Common Name
- Enter X and X Coordinates
- Submit LOC_NAME request



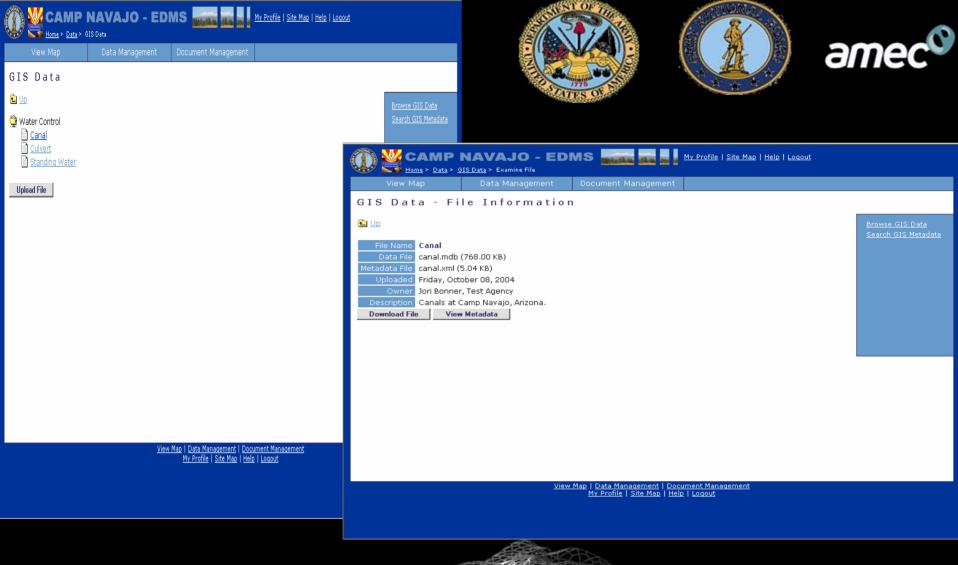
View Map | Data Management | Document Manageme My Profile | Site Map | Help | Logout

The Search Chemical Data page provides users with a query interface to enter search criteria and produce a record set. The record set has sort capabilities and can be downloaded into XML or CSV formats. Search UXO Data page is similar.

<u>View Map | Data Management | Document Manageme</u> <u>My Profile | Site Map | Help | Logout</u>



■The Sample Data Summary report is generated when a user clicks on the LOC_NAME hyperlink located on the previous Chemical Data Search Results page. →



• Choose "Browse GIS Data" from the Data section. This allows the user to select a folder which is appropriate for the GIS data to be downloaded. Once a file is selected, the option to "Download File" appears.



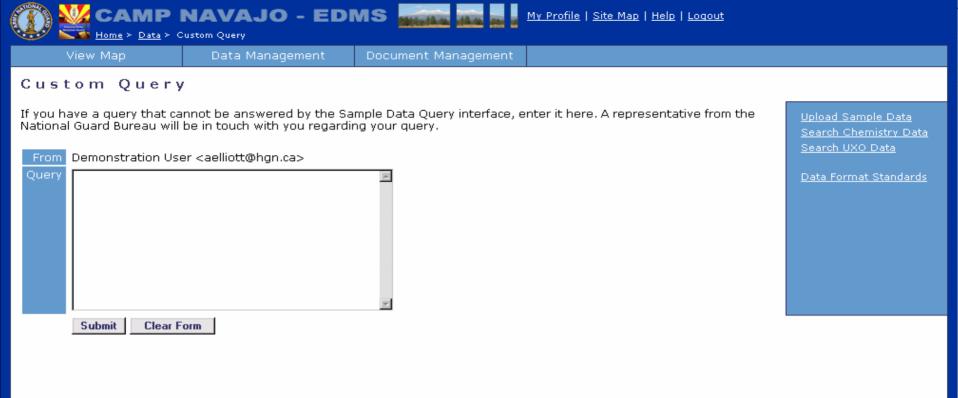
View Map | <u>Data Management</u> | <u>Document Management</u> <u>My Profile</u> | <u>Site Map</u> | <u>Help</u> | <u>Logout</u>

• The Search GIS Data page allows the user to enter a text string to search the GIS Data metadata for matches. The above example shows matches for the text string Contours which then can be downloaded.

Niell Flatt (Contours)

Quarry Pit (Contours)
 Railroad Tank (Contours)
 Small Arms (Contours)
 Tappen Springs (Contours)
 Training ASP (Contours)

Practice Demo Grounds (Contours)



<u>View Map | Data Management | Document Management</u> <u>My Profile | Site Map | Help | Logout</u>

• The Custom Query page is used when a query cannot be answered the Sample Data Query interface. Enter in a text based message and click submit. An EDMS staff member will provide the results that are desired.

Upload New Documents

incomplete / Unsubmitted

Search Documents

Review and Approve

View Access Logs

Index Report





CAMP NAVAJO - EDMS

Home > Document Management

View Map

Data Management

Document Management

Website Reporting

ocument Management

In this section you can interact with the documents that form part of the Administrative Record.





The ability to upload project reports, documents and records is available under Upload New Documents.



Search for Documents

Access to search project reports, documents, and records by searching on keywords



incomplete and Unsubmitted

The ability to review document metadata for unsubmitted documents or upload a PDF document for incomplete documents is available under "List My Incomplete and Unsubmitted Documents".



Review and Approve Documents

Examine and review submitted documents and their metadata, and decide whether to admit the document into the Administrative Record or to send the document back to the submitter for edits.



View Access Logs

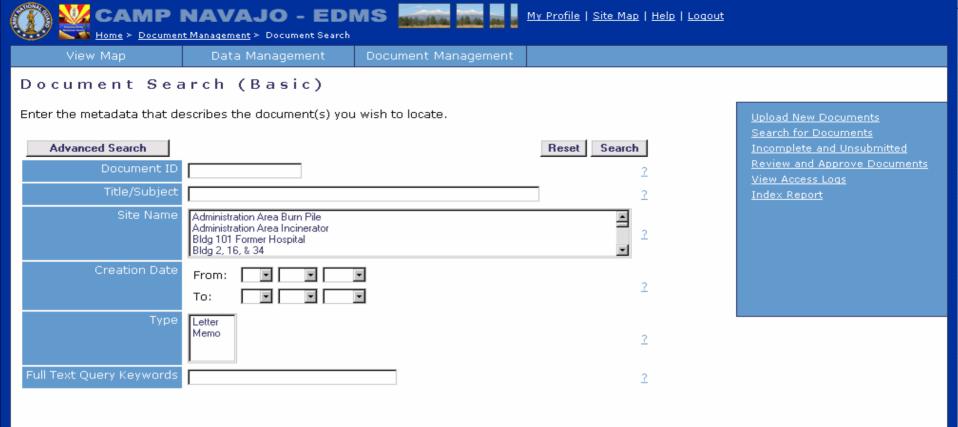
See which users are viewing which documents.



index Report The Administrative Record Index Report displays a listing of all documents according to their classification.

View Map | Data Management | Document Management | Website Reporting My Profile | Site Map | Help | Logout

 The Document Management page gives the users the ability to upload, search, and manage documents. Not all sections shown above will be available to all users. These appear based on your permissions, set by the Agency Administrator.



<u>View Map | Data Management | Document Management</u> <u>My Profile | Site Map | Help | Logout</u>

■The Document Search Page has two search criteria pages, Basic (by default) and Advanced (click button). Users enter criteria to search for available documents. The Full Text Query Keywords will search metadata and the contents of entire documents to return matching results. Document Management > Document Search > Document Search Results



View Map

Data Management

Document Management

Document Search Results

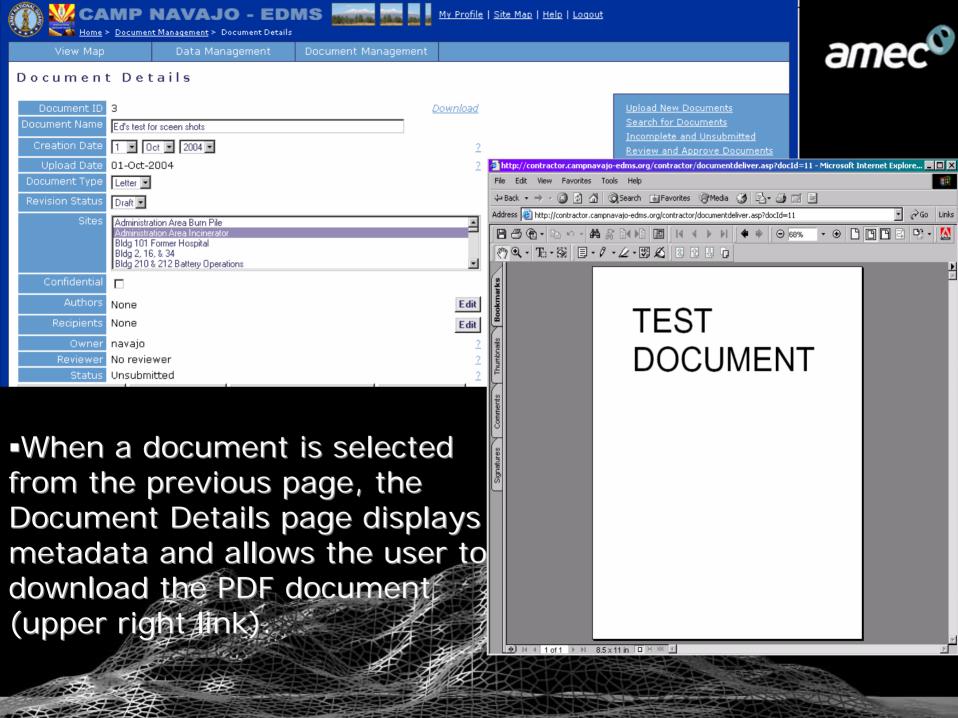
These are the documents that matched your query. Click on an arrow (^) to sort results by that column. Click again to sort by descending values.

Name ^	Creation Date 🔻	Type ^	Doc ID ^
Ed test 6	04-Oct-2004	Letter	11
Adam's Test Document	01-Oct-2004	Memo	4
CAMEO Test Document	25-Sep-2001	Memo	1
Adam's Other Test Document	04-Mar-1999	Memo	5
Test Doc #13	25-Feb-1997	Letter	2

Upload New Documents Search for Documents Incomplete and Unsubmitted Review and Approve Documents Review Document Status View Access Logs Index Report

View Map | Data Management | Document Management | Agency Administration My Profile | Site Map | Help | Logout

 After entering search criteria, the Document Search Results page displays all matches. The results can be sorted by using the arrow hext to the header and a document can be viewed by clicking on the title.

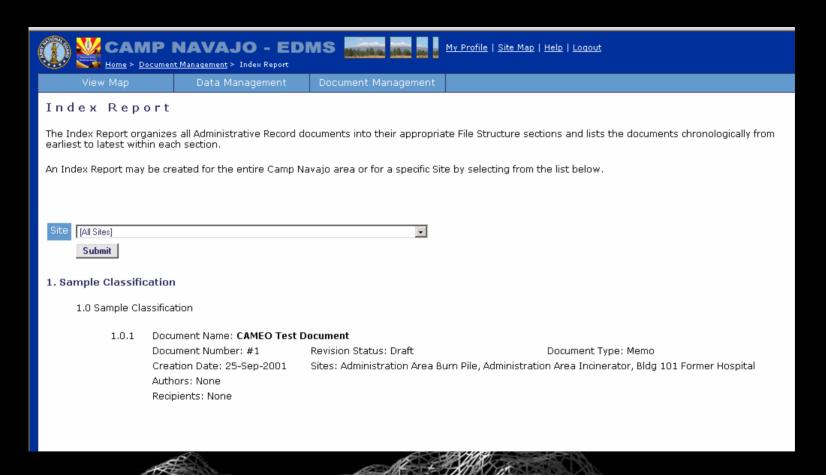


Index Report









 The Index Report page allows the user to generate a CERCLA style Administrative Report for all of Camp Navajo or by Site Name.





View Map

Data Management

Document Management

In this section you can interact with the documents that form part of the Administrative Record.

Upload New Documents

The ability to upload project reports, documents and records is available under Upload New Documents.

Search for Documents

Access to search project reports, documents, and records by searching on keywords.

Incomplete and Unsubmitted

The ability to review document metadata for unsubmitted documents or upload a PDF document for incomplete documents is available under List My Incomplete and Unsubmitted Documents.

Review and Approve Documents

Examine and review submitted documents and their metadata, and decide whether to admit the document into the Administrative Record or to send the document back to the submitter for edits.

View Access Logs

See which users are viewing which documents.

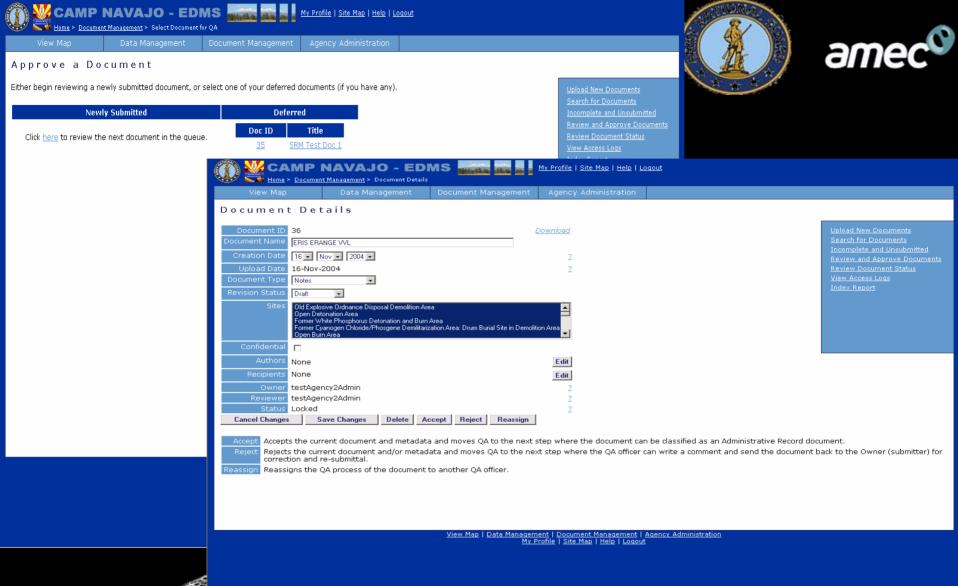
Index Report

The Administrative Record Index Report displays a listing of all documents according to their classification.

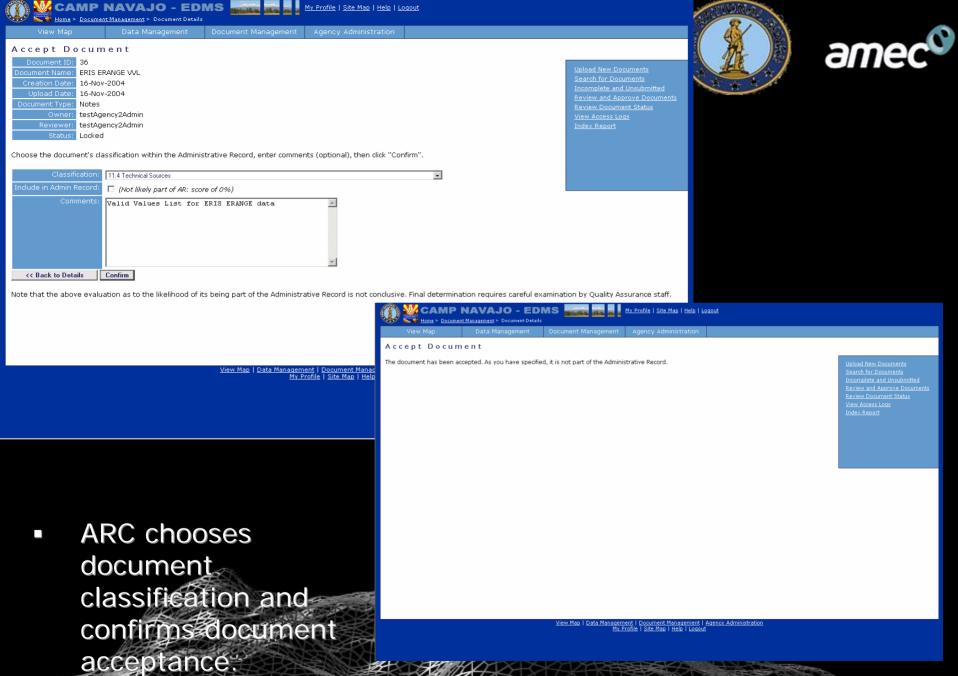
Upload New Documents Incomplete and Unsubmitted Review and Approve Documents

View Map | Data Management | Document Management My Profile | Site Map | Help | Logout

Administrative Record Coordinator (ARC) clicks on Review and Approve a Document link on the Document Management page



 ARC-reviews document management record to ensure accuracy and completeness of the metadata. ARC can accept, reject, or reassign document.







My Profile | Site Map | Help | Logout

View Map Data Manageme

ata Management 💎 Document Managem

Document Repository

Agency Administratio

Document Repository

Here you may browse or manage the folders that categorize the documents stored in this module. All folders are always visible to every user, but depending on the permissions assigned by the folder's owner, you may or may not be able to view the documents within.

If your agency owns the current folder, you will have the ability to create new folders, manage the current folder, and upload new files. To delete a folder, you must first delete all of its subfolders.

Document Root

Folder Name	Owner
AMEC	Andrew Nelson, AMEC Earth & Environmental
CH2MH*LL	Jennifer Holland, CH2MHILL
Harris Er vironmental	Shannon Twilling, Harris Environmental Group
Rozelle Gruup	Marty Rozelle, The Rozelle Group
Brown & Caldwell	Michael Simms, Brown & Caldwell
National Guard Bureau	Randall Wilkinson, National Guard Bureau
Technical Search Consultants	Mary Hershner, Technical Search Consultants
Stakeholder Advitory Group	Randall Wilkinson, Stakeholder Advisory Group
Arizona Department of Environmental Quality	Stacy Duffy, Arizona Department of Environmental Quality
MKM Engineers	Srini Neralla, MKM
AECOM	Raye Lahti, AECOM

Document Repository

New Folder

Here you may browse or manage the folders that categorize the documents stored in this module. All folders are always visible to every user, but depending on the permissions assigned by the you may or may not be able to view the documents within.

If your agency owns the current folder, you will have the ability to create new folders, manage the current folder, and upload new files. To delete a folder, you must first delete all of its subfolders.

Top (Document Root)

Op (AMEC)

NGB

File Name Owner Date Uploaded File Size

Stakeholder Reference Manual, Version 2 (Draft) Andrew Nelson, AMEC Earth & Environmental Tuesday, April 26, 2005 3.07 MB

New Folder

Edit Folder

Delete Folder

Upload File

Document Repository section to manage and disseminate draft project documents.

Folder Metadata

Folder Name	New Folder
Owner	Andrew Nelson, AMEC Earth & Environment

Folder Permissions

Choose those agencies you wish to grant read access to this folder. Your own agency always has read access and so does not appear in the list. You may also choose instead to make the folder public. overriding any existing permissions you have set and opening up read access to all agencies.

Members of agencies with read access may view and download the files contained in this folder, but do not have the ability to create new folders or manage this folder or subfolders. Files will be hidden and inaccessible to members of users without read access.

Make folder public:



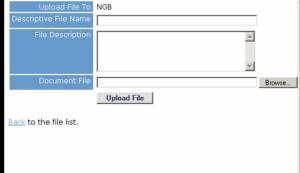
Agencies with no access

- Document Repository allows users to create folders with specific permissions for agencies
- •File upload by user within own folder, read access in other folders.



Document Repository File Upload

Please be patient when uploading document files. Your upload time will depend on file size and the speed of your Internet connection, Hitting the stop button, back bu process may cause your browser to abort the upload and result in an improper submission. You will receive notificat



С	hoose file		iodiloddol wilon your apio		? ×
	Look <u>i</u> n:	Desktop	v	G 🕸 📂 🖽 -	
	My Recent Documents Desktop My Documents My Documents My Computer LT005592	My Documents My Computer L My Network Pile Adobe Acrobat AEE Portal MEC HelpDesl AMEC WPN MED HelpDesl Belkin 802.11g Belkin 802.11g Burn CD & DVD HelpDesk Quick HelpDesk	T005592 sces 6.0 Standard k View Express Wireless Card Configuration Utility ss with Roxio Ticket Express	WinZip amy_springfield hp_53_enu 2005Worksheet_2 30 AIMMS_Australia 30 AIMMS_CampNava 30 AIMMS_TARGET_F 30 ATRIT 30 Disk Defragmenter 10 hp_53_enu.exe 30 Just_290.ne2005.3 30 project-portfolio.p	12July2005.ppt 16July2005.ppt ajo_CaseStudy.j Portland_03Nova kls
ı	My Network Places	File <u>n</u> ame:		•	<u>O</u> pen
	1.0003	Files of type:	All Files (*.*)	▼	Cancel